

THE SMITHSONIAN METEOROLOGICAL TABLES.

Mr. Charles S. Wood, Research Observer at Mount Weather, Va., under date of July 14, 1908, writes as follows:

I have the honor to call attention to the following inaccuracies that occur in the Smithsonian Meteorological Tables, second and third revised editions:

Page.	Value for—	Printed—	Should be—
185.....	27.65	702.21	702.31
110.....	467	3791	3891
110.....	468	3774	3874
110.....	469	3757	3857

These occur in the tables that we use in computing our kite records, and I take this opportunity to call attention to them in order that they may be corrected in future editions.

NATIONAL CONSERVATION COMMISSION.

Eminent statesmen, engineers, foresters, and geologists to the number of 50 constitute this commission, which is organized in four sections relative to waters, forests, lands, and minerals, respectively. The spirit that is to animate the commission is well expressed in the following extract from President Roosevelt's letter of instructions:

The work of the Commission should be conditioned upon keeping ever in mind the great fact that the life of the nation depends absolutely on the material resources, which have already made the nation great. Our object is to conserve the foundations of our prosperity. We intend to use these resources; but to so use them as to conserve them. No effort should be made to limit the wise and proper development and application of these resources; every effort should be made to prevent destruction, to reduce waste, and to distribute the enjoyment of our national wealth in such a way as to promote the greatest good of the greatest number for the longest time.

The Commission must keep in mind the further fact that all the natural resources are so related that their use may be, and should be, coordinated. Thus, the development of water transportation, which requires less iron and less coal than rail transportation, will reduce the draft on mineral resources; the judicious development of forests will not only supply fuel and structural material, but increase the navigability of streams, and so promote water transportation; and the control of streams will reduce soil erosion and permit American farms to increase in fertility and productiveness, and so continue to feed the country and maintain a healthy and beneficial foreign commerce. The proper coordination of the use of our resources is a prime requisite for continued national prosperity.

There is no break between the interests of State and nation, these interests are essentially one. Hearty cooperation between the State and national agencies is essential to the permanent welfare of the people.

Of course there are many other national resources, material, physical, intellectual, and psychical, that have contributed to make this nation great and which must also be developed and conserved.

We can not proceed wisely and successfully to the conservation of the water supply without solving preliminary problems, some of which are meteorological, such as the evaporation of snow and water under the influence of sunshine and wind. In the conservation of forests and in reforestation we need more minute knowledge than we now have of the influence of snowfall, rainfall, sunshine, and temperature.

The atmosphere in its purity is a prime factor in the matter of health and disease; the conservation of the national health and bodily vigor is a matter of first importance. But the conservation of the intellectual vigor and high moral tone of the people is, far and away above all other considerations, that which will contribute to maintain it in its high position during future ages.

Montesquieu long ago defended the thesis that climatic influences are directly or indirectly responsible for the laws of nations. Dexter and Ward have shown that the struggle of man against adverse features of climate has had great influence on his education, ethics, and morals. The first principles of evolution show to what great extent the weather and the climate have affected the physical development and material progress of nations. Ibsen presents to us "Brand" in the act

of choosing between the superstition, deception, supineness, and baseness of the lowlanders and the aspiration, nobility, and energy of the mountaineers; as tho the clear sunshine, cool air, and dry winds of the upper atmosphere lifted man to a higher plane of living.

Are we not all conscious of the truth of the fact that if possible we would annually flee to the upper air of the mountains or the purer air of the ocean in order to obtain physical and mental strength for the life that most of us must lead in the lowlands?

When we feel the inspiration of the fresh life that we breathe in with our pure, cold, clear, dry northerly winds, are we not taking in great drafts of our most precious national resource, i. e., the descending mass of air that pours down upon us from the upper regions of the atmosphere. It flows from Canada to the Gulf of Mexico, from the Rocky Mountains to the Atlantic coast. It lifts up the lower moist air and gives us rain. It freezes the swamps and kills fevers and malarias. Some say there is ozone in it, but that is only another word for health and vigor. As it is sure to bring cool weather in summer, but very cold in winter, we have learned to count upon its beneficent influence in numerous ways with certainty.

No other region of the world has yet been discovered where this pure upper air comes down to man so freely and opportunely. It descends almost as soon as we begin to feel the need of it and ceases when we have had just enough. Summer or winter it is equally welcome and useful. It blesses the land east of the Rockies, and, if we could, we would so conserve it that those living west of the mountains could enjoy it blessings. But the Pacific coast has its own special climate, and nothing that man can do will alter that, while the whole nation is richer for having at its disposal two extensive climatic regions, separated by an equally extensive plateau region. The conservation of national vigor will eventually require a continual interchange between the inhabitants of these three regions. It is oftentimes as important for the highlanders to return to the lowlands as it is for the rest of us to flee to the mountains. Experience has shown that Europeans who have spent several years in the Tropics must occasionally return to the northern climate for a breath of fresh air. India has its mountain resorts in the Himalayas; the government officials at Calcutta must spend half the year at Simla.

The summer climate of Washington is as bad as that of Calcutta. Will not the conservation of the energies of our Government officials eventually necessitate an annual hegira to the dome of our continent in Colorado?

WHERE AND HOW CAN OUR OBSERVERS PURSUE THE STUDY OF MODERN SCIENCE?

When it lately came to the knowledge of the Editor that an assistant observer had found a way to prosecute a course in laboratory physics and attain an advanced collegiate standing it occurred to him that many others would, by such an example, be encouraged to undertake similar studies. He has, therefore, secured permission to publish the following sketch of activity during the years 1903-08. The reader must, therefore accept this sketch not as being from Mr. Hooper, but from the Editor himself as showing that, to those who have the will, the way will be opened.

There are very many Weather Bureau stations located near good schools of science and polytechnics. The Weather Bureau Form No. 4047—Misc., seems to allow every observer an opportunity to state his desire to remain at his present station until he can finish the local collegiate course in modern languages, mathematics, physics, etc. It will not, in general, be possible to give him a new assignment to a station that has special advantages for study; but one can at least make the most of the advantages that he has, and hope for better in the future.

The object of such advance in scientific education is not, necessarily, to evolve a corps of researchers, tho doubtless a few geniuses may thus be discovered, but to so increase our general intellectuality that we may truly respond to the widespread popular belief that the Weather Bureau observers, section directors, and forecasters represent a very high type of government official.

This appeal is to the young men in the service—some of us are too old to be accepted as college students.—*C. A.*

WEATHER BUREAU MEN AS UNIVERSITY STUDENTS.

By JOHN K. HOOPER, Observer. Dated New Haven, Conn., July 18, 1908.

The Editor suggests that I write an article for publication in the MONTHLY WEATHER REVIEW, showing how it has been possible for me to take a special course of study at Yale University while performing the regular duties of assistant in the local office of the Weather Bureau at New Haven, Conn.

During the several years devoted to reading and study incident to preparing for the examinations required in the Weather Bureau as tests of educational efficiency, I became anxious to obtain a more extended knowledge of the branches of science germane to meteorology, than a mere course of reading could accomplish. I then decided that whenever an opportunity offered I would take up a course in those branches, under competent instruction.

The opportunity came to me when I was assigned to New Haven station in 1903. I made an added effort to complete the Weather Bureau examinations as soon as possible, and was able to register in the graduate department of Yale University at the opening of the college year in 1906.

By the advice of the university authorities, to whom I had explained just what I hoped to accomplish, and, with the permission of the Chief of Bureau, I took up the following preparatory course of study:

Elementary physics, three hours per week, Monday, Wednesday, and Friday, 2 p. m. Elementary laboratory physics, three hours per week, Thursday, 2 p. m. Analytical geometry and calculus, three hours per week, Tuesday, Thursday, and Saturday, 11:30 a. m.

These were the undergraduate courses of the academic department. They continued thruout the year.

The following year I took: Introduction to theoretical physics, three hours per week, Monday, Wednesday, and Friday, 11:30 a. m. This course continued thruout the college year of 1907-8.

During the first year I arranged to be excused from station duty on Monday, Wednesday, and Friday, from 2 to 3 p. m. then returned to the office and worked that much longer on those days. On Thursday I was excused from 2 to 5 p. m. and after the period in the laboratory, I remained at the office until the evening observation, and the work connected with it had been finished, eating the evening meal after that time.

It was not necessary to make any especial arrangement for mathematics on Tuesday, Thursday, and Saturday, as that period was during my lunch hour. To save time, however, I brought my lunch with me on those days and ate it in the office after 12:30 p. m. I did this same way during the second year on Monday, Wednesday, and Friday.

The studying was done at home in the evening. I did not attempt a regular schedule for each day, but took as much time as the various assignments required, sometimes being up until quite late. I allowed myself at least one evening each week for recreation, and took a complete rest on Sunday with the exception of station duty in the evening.

I do not say that this course has been taken without some self-denial and discomfort, but I am certain that with this additional knowledge of physics and mathematics I am now better equipped to pursue the study of meteorology, and this

more than counterbalances any inconvenience I may have undergone while obtaining it.

I do not consider that I have accomplished more than is possible for the majority of Weather Bureau employees. Many are even more conveniently situated than I have been, particularly those whose stations are located in university buildings or on university ground. The hours of duty in the service are such that any man so inclined can pursue some branch of study helpful to himself, and thru him of benefit to the Bureau.

Other branches of science are looking to meteorology for the solution of many of their own problems. Geographically we are the best fitted of any nation to solve the problems of the atmosphere. This should be a sufficient incentive to the men of the United States Weather Bureau to do all in their power to place meteorology in its proper position in coordinated knowledge—among the exact sciences.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following titles have been selected from among the books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be loaned for a limited time to officials and employees who make application for them. Anonymous publications are indicated by a —.

- Association française pour l'avancement des sciences.**
Compte rendu de la 36^{me} session. Reims 1907. Notes et mémoires. Paris. 1908. 1718 p. 8°.
- Baden. Centralbureau für Meteorologie und Hydrographie.**
Anleitung für die meteorologischen Stationen in Grossherzogtum Baden. Karlsruhe. 1908. 48 p. 8°.
- Bemmelen, W. van.**
On the rainfall in Java. Results of the observations at more than 700 stations in the period 1879 to 1905. Batavia. 1908. 83 p. 1°.
- British Guiana. Botanic gardens.**
Report... 1896-1907. Georgetown. 1898-1907. 1°.
- Claudel, J.**
Handbook of mathematics. New York. 1906. ix, 708 p. 8°.
- Colorado college observatory.**
... Semiannual bulletin no. 5. Meteorological statistics for 1907. Colorado Springs. 1908. p. 101-135. 8°. (Colorado college publications. General series no. 36. Science series v. 12. no. 5.)
- Durand-Gréville, E.**
... Le mammatus. Paris. 8p. (Extrait du Bulletin de la Société astronomique de France, Janvier 1901.)
- Egypt. Survey department.**
Instructions for the meteorological observers [English and Arabic]. n. t. p. 7 p. 1°.
- Foerster, Wilhelm.**
Von der Erdatmosphäre zum Himmelsräume. Berlin. 1906. 115 p. 8°.
- France. Bureau central météorologique de France.**
Annales. Année 1905. II. Observations. Paris. 1908. v. p. 1°.
Same. III. Pluies. Paris. 1907. (8), 145 p. 1°.
- Hedrick, U. P.**
The relation of weather to the setting of fruit; with blooming data for 866 varieties of fruit. (New York Agricultural station. Bull. no. 299. March, 1908. Geneva. 138 p. 8°.)
- Hejas, E. and Rethy A.**
Die Häufigkeit des Niederschlags in Ungarn nach 15-jährigen Beobachtungen (1886-1900) von 20 Stationen. Budapest. 1908. 23 p. 1°. (Aus den Jahrbücher der königl. ung. Reichsanstalt für Meteorologie und Erdmagnetismus. 35. Band. Jahrgang 1905. 4. Theil.)
- Hörmann, Ludwig von.**
Wetterherren und Wetterfrauen in den Alpen. (Sonderabdruck aus der Zeitschrift des Deutschen und Österreichischen Alpenvereins 1907 (38. Band).) München. 1907. p. 93-114. 4°.
- Innsbruck. Universität. Meteorologisches Observatorium.**
Beobachtungen... 1905. Innsbruck. 1907. n. p. 8°.
- Italy. Ufficio centrale di meteorologia e di geodinamica.**
Annali... Serie seconda. v. 17. Parte 3. 1895. Roma. 1907. xii, 283 p. 1°.
- Manchester university. Meteorological department.**
Report on the investigation of the upper atmosphere carried out at the Howard estate observatory, Glossop... 1906-1907. Manchester. 1908. n. p. 4°.